

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A battery separator comprising:
a microporous membrane including
an ultra high molecular weight polyethylene,
a filler, and
a grass lignin.
2. (original) The separator of claim 1 wherein said grass lignin comprises about 5-20% by weight of said membrane.
3. (original) The separator of claim 2 wherein said grass lignin comprises about 5-10% by weight of said membrane.
4. (currently amended) The separator of claim 1 wherein said grass lignin source being selected from the group consisting of:
bagasse, straw, abaca, sisal, flax, jute, hemp, and combinations thereof.

5. (original) A lead acid battery including the separator of claim 1.

6. (previously presented) A battery separator comprises:
a microporous membrane having an open cell structure with pores sizes in the range of about 0.1 to about 1 micron and porosity greater than 10%, and where said microporous membrane comprises:

about 15-25% by weight of an ultra high molecular weight polyethylene;

about 50-80% by weight of a filler;

about 5-20% by weight of a grass lignin.

7. (original) The separator of claim 6 wherein said filler being selected from the group consisting of precipitated silica, oxide compounds, and mixtures thereof.

8. (cancelled)

9. (currently amended) The separator of claim 6 wherein said grass lignin source being selected from the group consisting of: bagasse, straw, abaca, sisal, flax, jute, hemp, and combinations thereof.

10. (withdrawn) A thermoplastic polymer formulation comprising:

up to about 80% by weight of the formulation being thermoplastic polymer;

up to about 20% by weight of the formulation being a processing oil, and

up to about 10% by weight of the formulation being a grass lignin.

11. (withdrawn) The formulation of claim 10 wherein said polymer being a polyolefin.

12. (withdrawn) The formulation of claim 10 wherein said polymer being an ultrahigh molecular weight polyethylene.

13. (withdrawn) The formulation of claim 10 wherein said polymer includes a filler.

14. (withdrawn) The separator of claim 10 wherein said grass lignin being sourced from bagasse, straw, abaca, sisal, flax, jute, hemp, and combinations thereof.